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## THE CHITTAGONG HILL TRIBES

*The Chittagong Hill Tribes. Results of a Journey in the Year 1882.* By Dr. Emil Riebeck. Translated by Prof. A. H. Keane. (Asher, 1885.)

THE visit paid by Dr. Riebeck to the frontier tribes between Chittagong and Independent Burmah in the spring of the year 1882 formed a mere episode in the great expedition to the Far East, from which he has recently returned, laden with ethnological treasures of all sorts. But this episode, carried out at the suggestion of Dr. Bastian, "prince of ethnologists," proved from a variety of causes so unexpectedly fruitful in results, that he has been well advised to publish a separate account of it, pending the appearance of a comprehensive work on his general travels in Somaliland, India, China, Japan, and other Eastern regions. In its arrangement, profusion of coloured and other illustrations, and especially in the treatment of the subject matter, this first instalment almost reaches the standard of ideal perfection—of such perfection as can be achieved only by patient and intelligent observation, and by the cooperation of specialists in their several faculties combined with a generous use of unlimited means. Certainly the principle of division of labour in literary and scientific work has never been more happily illustrated than in the present instance. Wisely limiting his own functions to those of a laborious collector and narrator of his personal experiences, Dr. Riebeck has placed all his rich materials at the disposal of the foremost naturalists in Germany, by whom the data thus supplied have been made a convenient text for so many separate monographs of great value on the various scientific aspects of the subject.

The work thus comprises, besides the journey itself graphically described by the traveller, four independent treatises—by Dr. A. Grünwedel, on the ethnology; by Dr. Rudolf Virchow, on the anthropology; by Prof. Julius Kühn, on the zoology; and by Herr von Danckelmann, on the meteorology of the hilly region traversed during the expedition.

The trip included altogether two separate excursions, the first from Chittagong up the Karnaphuli river to Pakhoma and Forts Sirtay No. 1 and 2, close to the Burmese frontier; the second, again from Chittagong southwards to the Sangu, up that river nearly to its source, thence across the border to Dalakmey on the Koladan in Arakan, and from that point down the Koladan to its mouth at Akyab. None of these river basins can be described as unknown regions, seeing that they all lie well within British territory, and have been frequently traversed in various directions by Lewin, Hunter, and other explorers, by Government surveyors, and even occasionally by military expeditions. Nevertheless, such is the intricate character of the land, consisting of nearly parallel mountain ranges running close together, mainly north and south, separated by deep intervening river gorges, often densely wooded, and inhabited by a multiplicity of semi-independent hill tribes in almost

every stage of social culture, that the broad physical features both of the country and its inhabitants had hitherto been but imperfectly understood, while few of the details had been fully worked out. Hence a rich harvest still awaited our traveller, and the abundant materials collected by him and carefully sifted by his scientific fellow-workers could not fail to prove useful and help to solve some obscure problems in the natural history of the country.

Thus a comparative study of the two Gayal skulls from Chittagong and Arakan enables Dr. Kühn to clear up several questions touching the mutual relations of the gayal (*Bos gavæus*, Colebrooke), the arni or true wild buffalo (*Bubalus indicus*), the gaur (*Bos cavifrons*, Hodgson), and other members of the ox tribe in India and Indo-China. It now appears evident that the gayal or wild ox of Bengal, Assam and Further India does not differ specifically from the gaur of India proper, as George Vasey and others wrongly supposed. "While the wild gayals' skulls show all the features of the gaur, the forms of the tame gayal from the same locality correspond altogether to the normal gayal type as described by its best observer, Hodgson. Room is thus afforded for the surmise that both types characterise, not two distinct species, but forms only of the same species; that consequently gaur and gayal are specifically one, and that the deviations of the latter in its tame form have merely the value of a variation due to domestication."

Of more general interest are the admirable ethnological and anthropological papers of Dr. Grünwedel and Dr. Virchow, whose learned analysis of the data, and especially of the numerous measurements supplied by Dr. Riebeck, throws a flood of light on the many perplexing questions connected with this obscure ethnical domain. Accepting the already-established broad distinction between the Khyoung-thâ or River Tribes, and Toungh-thâ, or Hill Tribes (Lowlanders and Highlanders), a distinction which has more than a mere geographical significance, these anthropologists find that, on the whole, the hill tribes are of purer descent, that is, represent the aboriginal element more closely, than the riverain populations. The latter (Maghs, Chakmas, TOUNGJINYAS, &c.), have become more intermingled with the Bengalese and other intruders from India, and are characterised by a yellower complexion suggestive of Mongol, or perhaps Malay, affinities. The former (Pankhos, Banjogis, Mros, Kumis, Kukis or Lushais, Shos, Shindus, &c.) are of a darker hue, and seem to approach nearer to the Kolarian aborigines of India. At the same time Dr. Virchow is careful to point out that none of these Hill Tribes lend any support to the theory of an aboriginal Negrito element formerly spread over the whole of India and Indo-China, advocated especially by De Quatrefages and other French ethnologists. "According to unanimous testimony they have all black, long, and smooth, but by no means straight, hair, and, although not athletic, their stature still at once separates them from the dwarfish Andamanese and Negritoes. On the other hand, in further inquiry the question cannot be waived whether the Hill Tribes of Chittagong, perhaps also of Nepal, may not, after all, be somewhat nearly related to the primitive 'black skins' of India. The name Dasyu, or

Dasa, recalls in a remarkable manner the word Dzo, applied both to the Lushais and their speech."

On the whole the Lowlanders appear to be closely related to the Arakanese, and consequently to the Burmese, and are characterised by distinctly Mongolic features. They may, in fact, be regarded as a Mongoloid people, intermediate between the true Mongols of Northern and Central Asia and the Malays of Malacca and the Eastern Archipelago.

This section of the subject is illustrated by very complete tables of measurements, and by as many as twenty-six photographs of Lushais, Pankhos, Maghs, Chakmas, Tipperahs, and other highland and lowland tribes.

Dr. Riebeck's account of his experiences amongst these children of nature is extremely graphic, and all the more entertaining that the arrangement with his collaborateurs enables him to eliminate all dry technicalities and strictly scientific matter. At the time of his visit a famine prevailed amongst the border tribes in the upper Karnaphuli basin, causing an irruption of Lushais and others into British territory. Thanks to this circumstance he was enabled to procure many valuable articles from the half-famished people in exchange for a little rice and spirits. The circumstances connected with these transactions are related with a frankness which almost savours of excessive candour. "The brandy I concocted myself," he tells us, "by diluting spirits of wine with water, and colouring it with burnt sugar, thereby producing a still more alluring drink for their uneducated palate. In return, they not only parted with a large quantity of their implements, but also allowed me to take bodily measurements and submitted to be photographed by my fellow-traveller Rosset. If for brandy I had substituted money, this would have soon found its way into the pockets of the Bengali dealers, who cozened and plundered the natives to the utmost. I may therefore be pardoned if I preferred to tickle the palate of the Lushais with fire-water rather than play into the hands of the blood-sucking usurers."

A tropical thunderstorm, by which he was overtaken in the Ruma district, is described in exceedingly vivid language. "The spectacle which now presented itself was one of the most stupendous imaginable. In a few seconds the firmament became completely overcast; then the welkin towered up, looking in the gleam of the electric flashes like mighty sheaves of flame. The weird effect was heightened by the neighbouring woodlands, which were now all ablaze. For the natives had fired the surrounding bamboo-clad hills in order to clear the land for paddy-fields, and sow their rice in the ashes. Thus was mingled the crackling of the burning and crashing bamboo canes with the roaring thunder aloft, the whole producing a din like that of a neighbouring battlefield."

These passages may also serve as specimens of Prof. Keane's very admirable, faithful, and idiomatic translation. It may be mentioned that the German and English editions, both in folio size and splendidly printed, were issued simultaneously by Messrs. Asher, of Berlin and London. The work forms a sumptuous volume which should find a place in every well-appointed library.

### THE METEOROLOGY OF BOMBAY

*Magnetical and Meteorological Observations made at the Government Observatory, Bombay, 1883, under the Superintendence of Charles Chambers, F.R.S., Rev. Fr. Drechman, S.F., Ninayek Narayen Nene, and Frederick Chambers. (Bombay, 1884.)*

OF the series of volumes entitled "Bombay Magnetical and Meteorological Observations," the present one of forty pages folio is the twenty-fourth. The observations were begun in 1841, and whether we consider the high class character of the observations themselves, the fulness with which they were made from hour to hour, or the long period over which they extend, they must be regarded as among the very best meteorological records we possess. In the discussion of many of the larger questions of Indian meteorology, such as are from time to time dealt with by the meteorologists of India with so much ability and success, the Bombay observations are simply invaluable; and they are at least of equal importance in the wider questions of the science, and particularly in those cosmical inquiries which have largely engaged the attention of physicists in recent years.

In this report a very satisfactory account is given by Mr. Chambers of the observatory, its position, and surroundings, the instruments in use, and the duties of the various members of the observing staff, all showing that a trustworthiness and an accuracy is secured for the observations which leaves nothing to be desired. Five eye-observations are made every day without exception, at 6 and 10 a.m., and 2, 4, and 10 p.m. In addition to these, continuous registrations are obtained by means of automatic recording instruments, consisting of the magnetographs, the barograph, thermograph, pluviograph, and anemograph, the first four registering photographically and the last mechanically.

From these observations and registrations hourly readings of the various instruments are obtained, and from them the daily means are deduced. These daily means, together with the monthly means, are published in a series of tables appended to the Report. The daily results of the wind observations are given with more than usual fulness,—these consisting of the mean velocity in miles per hour without regard to the direction from which it blew; the aggregate and mean velocities and relative frequency of different winds; and the mean daily velocities of the north or south and east or west components of the winds which blew each day, in miles per hour. At Bombay the greatest mean daily velocity in miles per hour was 31.8 on June 11, and the least 5.2 on October 4; whilst the mean hourly velocity from June to August was 16.2 miles, and from September to May it was only 10.9 miles.

Underground observations are made at depths of 1, 9, 20, 60, and 132 inches below the surface, the first two depths being observed five times daily and the last three once a day, inasmuch as at these depths no diurnal variation is shown. At depths of 1 and 9 inches the monthly maximum and minimum temperatures occurred in December and May, but at the depth of 132 inches these annual phases were delayed till March and July. The mean annual temperature of the air during 1883 was 78°·8,